Water & Sewage Works

Index, Vol. 110, January-December, 1963

NUMBER	PAGES
January	1-56
February	57-90
March	91-122
April	123-162
May	163-202
June	203-240

Note
1—*For Index to Reference Number Material, see October 31, 1963 Issue, Page R-400.*
2—*Reports on conventions are listed under "Conferences", "AWWA", and "WPCF".*

NUMBER	PAGES
July	241-280
August	281-304
September	305-330
October	331-378
November	379-418
December	419-462

Activated Sludge

Absorption of Oxygen by Activated Sludge 33
Activated Sludge Composition 262

Algae

Effect of Algae in BOD Samples 191
Effect of Light Intensity on Photosynthesis 426
Pretreatment Licks Algae Problem 267
Treatment for Cold Water Algae 299

Analytical Methods

A Simplified Nitrate Test 27
Bioassay for Algicidal Vs. Algistatic Chemicals 296
BOD Analysis Simplified 166
Chromatograph Analyzer Geared to On-Line Composition Control 430
Determination of Low-Level Radioactivity in Water .....Part 1 34
Determination of Low-Level Radioactivity in Water .....Part 2 69
Determination of Low-Level Radioactivity in Water .....Part 3 97
Determination of Low-Level Radioactivity in Water .....Part 4 143
Evaluation of Daily Carbon Chloroform Extracts with the CAM .....Part 1 275
Evaluation of Daily Carbon Chloroform Extracts with the CAM .....Part 2 281
Organics in Water Supply 216
Sludge Gas Analysis Using Gas Chromatography .....Part 2 43
Sludge Gas Analysis Using Gas Chromatography .....Part 3 77
Sludge Gas Analysis Using Gas Chromatography .....Part 4 102
Sludge Gas Analysis Using Gas Chromatography .....Part 5 127
Sludge Gas Analysis Using Gas Chromatography .....Part 6 171
Sludge Gas Analysis Using Gas Chromatography .....Part 7 220
Sludge Gas Analysis Using Gas Chromatography .....Part 8 254
Sampling Device for DO Tests 147
Standard Methods: What They Are and How They Got That Way 347

BOD

BOD Analysis Simplified 166
BOD of Selected Organisms 285
Effect of Algae in BOD Samples 191

AWWA

AWWA Board of Directors Meet 177
Indiana Section, AWWA Meets 202
Water—Key to Progress 169
24th Annual Meeting of the Michigan Section, AWWA 436
36th Annual Conference of Arizona Water and Pollution Control Association 370
37th Annual AWWA and 27th Annual WPCA Rocky Mountain Section Meetings 437
44th Annual Conference of California Section, AWWA 425
52nd Annual Conference of Southwest Section, AWWA 458
83rd Annual Conference, AWWA 7A
83rd Annual Conference, AWWA 294

Chemical Feed

Activated Silica Sol Applications 251
Chemicals Eliminate Equipment 278
Safety and Common Sense 405

Chlorination

A Calcium Hypochlorite Manufacturing Process for Water Treatment Plant Use 318
Chlorine Disinfection in Primary Sewage Treatment .....Part 1 415
Chlorine Disinfection in Primary Sewage Treatment .....Part 2 438

Computer

Programming River DO Calculations Part 1 114
Programming River DO Calculations Part 2 157

Conferences

ASCE Environmental Engineering Conference 185
MCA Pollution Abatement Workshop 186
Michigan Water Resources Conference 74
Soap and Detergent Association 177
The Delaware River Basin Commission 148
The Eastern Water Company Conference 96
Western Resources Conference Report 440

Construction

Rock Creek Sewer 372
Sioux City's Solution: Concrete Pipe with Protective Liner 308
Outfall Location Requires Pipe Air-Lift 82

Corrosion Control

Sioux City's Solution: Concrete Pipe with Protective Liner 308

Design

A Calcium Hypochlorite Manufacturing Process for Water Treatment Plant Use 318
Albuquerque's New Sewage Treatment Plant 331
Capillary Vs. Pipeline in Determining Sludge Flow Behavior 272
Current Practice in Hydraulic Design of Conduits 342
Elevated Vs. Ground Water Storage Part 2 37
Kaplan-Type Pumps for the City of Detroit 301
Montecieto's "Secret" Sewage Treatment Plant 108
Nomograph for Thrust at Pipe Bends 234
Pipe Friction Factor Calculation 91
Pumping Stations and Sound Control 57
Pump Specific Speed 424
Reynold's Number for Water 346
Sioux City's Solution: Concrete Pipe with Protective Liner 308
STP Liquid Level Control 75
The CE Looks at R & D 66
Use of Energy Changes in Pump Tests Part 1 61
Use of Energy Changes in Pump Tests Part 2 119
Use of Energy Changes in Pump Tests Part 3 135
Variable Speed Sewage Pump Drives 111
Water Hammer Nomograph 416

Digestion

A Study of the Effects of Negative Pressure on Sludge Digestion 29
Digestion Reduction Chart 225

Disinfection

A Calcium Hypochlorite Manufacturing Process for Water Treatment Plant Use 318
Chlorine Disinfection in Primary Sewage Treatment .. Part 1 415
Chlorine Disinfection in Primary Sewage Treatment .. Part 2 438

Economics

A Review of Water Pollution—Economic Aspects and Research Needs 85
Water Resources System Design 195

Editorials

A Program Innovation 378
An Engineer is Dead 462
An Opportunity To Be Heard 300
Competition Complications 90
Federal Water—Resources Research 162
National Water Company Conference 418
Pesticides—The President's Panel Report 240
State Aid for Operation and Maintenance 122
Water Resources Financing Needs Coordination 56

Instrumentation

Nomograph for Free Flow Discharge Through a Parshall Flume 199
Pumping Equipment Controls 453
STP Liquid Level Control 75
Warfleigh—The Deluxe Pumping Station 228

Legal

Local Finance Law and the Water Utility Part 1 160
Local Finance Law and the Water Utility Part 2 200
Local Finance Law and the Water Utility Part 3 210
The Water Situation Today—Legal Aspects 375

Maintenance

Closed Circuit TV Inspects Underground Sewage Pipe 387
Exceptional Record for Coal Tar Enamels 52
Lining and Coating Steel Pipe 53
New Water Meter Maintenance Plan 137
Pump Wearing Ring Lubrication 400
Relining Concrete Reservoirs 238
State Aid for Operation and Maintenance 279

Meters

New Water Meter Maintenance Plan 137
Stopping Losses by Meter 338

Nomographs

Digestion Reduction Chart 225
Free Flow Discharge Through a Parshall Flume 199
Pump Specific Speed 424
Reynold's Number for Water 346
Thrust at Pipe Bends 234
Water Hammer 416

Photographic Review

Annual Photographic Review 1

Pipe

Capillary Vs. Pipeline in Determining Sludge Flow Behavior 272
Closed Circuit TV Inspects Underground Sewage Pipe 387
Current Practice in Hydraulic Design of Conduits 342
Lining and Coating Steel Pipe 53
Pipe Friction Factor Calculation 91
Reynold's Number for Water 346
Thrust at Pipe Bends 234
Water Hammer 416

Planning

A Regional Waste Disposal System 138
Local Public Works and Federal Assistance 178
Price Policy and Urban Water Supplies 389
The Water Utility and Regional Planning 100
Water Resources System Design 195
Water Service for Tomorrow 175

Pollution

A Review of Water Pollution—Economic Aspects and Research Needs 85
Aspects of Water Pollution 60
BOD of Selected Organisms 285
Detroit River—Lake Erie Project 305

Evaluation of Daily Carbon Chloroform Extracts with the CAM .. Part 1 275
Evaluation of Daily Carbon Chloroform Extracts with the CAM .. Part 2 281
Flow Release Requirements in Pennsylvania 151
Hyacinth Removal Creates Biological Conditions 382
Michigan's Water Situation Today—Pollution and Its Control 155
Organics in Water Supply 216
Programming River DO Calculations—Part 1 114
Programming River DO Calculations—Part 2 157

Pumps

Chicago's Southwest Pumping Station 419
Garner, N. C., Pumps Sewage To Metropolitan Plant 417
Kaplan-Type Pumps for the City of Detroit 301
Pumping Equipment Controls 453
Pumping Stations and Sound Control 57
Pump Selection 395
Pump Specific Speed 424
Pump Wearing Ring Lubrication 400
Use of Energy Changes in Pump Tests .. Part 1 61
Use of Energy Changes in Pump Tests .. Part 2 119
Use of Energy Changes in Pump Tests .. Part 3 135
Variable Speed Sewage Pump Drives 111
Warfleigh—The Deluxe Pumping Station 228

Radioactivity

Atomic Radiation in Sewage Processing 163
Determination of Low-Level Radioactivity in Water .. Part 1 34
Determination of Low-Level Radioactivity in Water .. Part 2 69
Determination of Low-Level Radioactivity in Water .. Part 3 97
Determination of Low-Level Radioactivity in Water .. Part 4 143
Environmental Radionuclides in a Water Supply 245
Environmental Radionuclides in Municipal Wastewater 205
Factors Affecting Sr-85 and I-131 Removal by Runoff Water 407

Research Progress Reports

BOD of Selected Organisms 285
Effect of Light Intensity on Photosynthesis 426
Environmental Radionuclides in Municipal Wastewater 205
Evaluation of Daily Carbon Chloroform Extracts with the CAM .. Part 1 275
Evaluation of Daily Carbon Chloroform Extracts with the CAM .. Part 2 281
The Relationship Between Absorbed P^{32} and pH of the Substrate 364

Safety

Safety and Common Sense 405

Sewage

A Regional Waste Disposal System 138
Environmental Radionuclides in Municipal Wastewater 205
New York State Municipal Water and Sewage 448
Pump Wearing Ring Lubrication 400
Variable Speed Sewage Pump Drives 111

Sewage Treatment

Atomic Radiation in Sewage Processing 163
Chemicals Eliminate Equipment 278
Conversion to an Aerated Lagoon Extends Pond's Life 359
The Green Lagoon .. Part 1 385
The Green Lagoon .. Part 2 433

Sewage Works

Albuquerque's New Sewage Treatment Plant 331
Baton Rouge's New Sewerage System 351
Florida STP is Efficient and Attractive 180
Garner, N. C., Pumps Sewage to Metropolitan Plant 417
Massillon, Ohio, Sewage Treatment Plant 459
Montecito's "Secret" Sewage Treatment Plant 108
Sewage Disposal and the Sea in Southern California .. Part 2 49
Sewerage in the Stockholm Area 230
State Aid for Operation and Maintenance 279
STP Liquid Level Control 75

Sewers

Outfall Location Requires Pipe Air-Lift 82
Rock Creek Sewer 372
Sioux City's Solution: Concrete Pipe with Protective Liner 308

Sludge

A Study of the Effects of Negative Pressure on Sludge Digestion 29
Capillary Vs. Pipeline in Determining Sludge Flow Behavior 272
Digestion Reduction Chart 225
Investigation of the Dewatering of Biological Sludge with a New Centrifugal Apparatus 411
Sludge Gas Analysis Using Gas Chromatography .. Part 2 43
Sludge Gas Analysis Using Gas Chromatography .. Part 3 77
Sludge Gas Analysis Using Gas Chromatography .. Part 4 102
Sludge Gas Analysis Using Gas Chromatography .. Part 5 127
Sludge Gas Analysis Using Gas Chromatography .. Part 6 171
Sludge Gas Analysis Using Gas Chromatography .. Part 7 220
Sludge Gas Analysis Using Gas Chromatography .. Part 8 254
System Replaces Digestion and Sludge Drying 55

Stabilization Ponds

Conversion to An Aerated Lagoon Extends Pond's Life 359
The Green Lagoon .. Part 1 385
The Green Lagoon .. Part 2 433

Synthetic Detergents

Atomic Radiation in Sewage Processing 163
Launderette Waste Treatmert System 83

Tanks

Elevated Vs. Ground Water Storage..Part 2 37
Tank Flow Line Determination 71

Taste and Odor

Pre-Treatment Licks Algae Problem 267
Winter Water Treatment Problems at Valparaiso 168

Wastes

A New Solvent System for Improved Extraction of Activated Charcoal 422

Water Supply

Aquifer Performance Evaluation 313
A Review of Water Pollution—Economic Aspects and Research Needs 85
Daly Backs USPHS Control of Water Pollution 441
Detroit River—Lake Erie Project 305
Environmental Radionuclides in a Water Supply 245
Factors Affecting SR-85 and I-131 Removal by Runoff Water 407
Flow Release Requirements in Pennsylvania 151
Ground Water 203
Michigan's Public Health Program in Water Resources Management 355
Michigan's Water Situation Today—Polution and Its Control 155
Michigan's Water Situation Today—Supply and Demand 269
New York State Municipal Water and Sewage 448
New York Water Resources Commission 212
Organics in Water Supply 216
Preliminary Area Survey for Ground Water Supply 290
Pre-Treatment Licks Algae Problem 267
Pump Selection 395
State Water Resource Development Programs 181
The CE's Role in Developing a Ground Water Supply 257
The Water Situation Today—Legal Aspects 375
Treatment for Cold Water Algae 299
Vigilance—A Prime Factor in Water Management 327
Water Resource Control 402
Water Resources System Design 195
Water Service for Tomorrow 175
Water Well Design 334
Winter Water Treatment Problems at Valparaiso 168

Water Treatment

A Calcium Hypochlorite Manufacturing Process for Water Treatment Plant Use 318
Activated Silica Sol Applications 251
Tank Flow Line Determination 71

Water Works

Disneyland's Waterworks 87
Elevated Vs. Ground Water Storage..Part 2 37
Henderson, Kentucky, Engineers for Economy 366
Improved Sludge Recarbonation at Dayton 23
Local Finance Law and the Water Utility..Part 1 160
Local Finance Law and the Water Utility..Part 2 200
Local Finance Law and the Water Utility..Part 3 210
Miami Utility Builds Its Own Office Building 379
Monroe County's Water Treatment Plant 448
New Water Meter Maintenance Plan 137
Plentiful Quality Water Makes the Difference 226
Price Policy and Urban Water Supplies 389
Pumping Stations and Sound Control 57
Relining Concrete Reservoirs 238
Stopping Losses by Meter 338
The Seattle Water System 241
The Water Utility and Regional Planning 100
Water Treatment Facilities in Oakland, Md. 130
Water Utilities Across the Atlantic 187

Wells

Aquifer Performance Evaluation 313
Ground Water 203
Preliminary Area Survey for Ground Water Supply 290
Pumping Equipment Controls 453
Pump Selection 395
The CE's Role in Developing a Ground Water Supply 257
Water Well Design 334

WPCF

California Water Pollution Control Association Holds 35th Annual Conference 367
Seattle Hosts the 36th Annual WPCF 363
35th Annual Meeting of the New York WPCA 237
36th Annual Conference of Arizona Water & Pollution Control Association 370
36th Annual WPCF Meeting 442
37th Annual AWWA and 27th Annual WPCA Rock Mountain Section Meetings 437

AUTHORS' INDEX

A

Anderson, Donald R. (With Bloodgood, Don E.) 29
Atkins, Peter F., (with Tomlinson, H. D.) 275; 281

B

Beck, Curtis G. 375
Becker, H. S. M. (with Keefer, C. E.) 400
Behn, V. C. (with Shane, R. M.) 272
Bennett, Douglas G. 327
Benson, Jewell R. 238
Bhagat, S. K. (with Gloyna, E. F.) 205
Bischofsberger, W. (with Stalmann, V.) 411

Bloodgood, Don E. (with Anderson, Donald R.) 29
Bonney, C. H. (with Webb, M. R.; and Rowan, W. H.) 71

C

Caplan, F. 199; 234; 346; 416; 424
Carpenter, J. D. (with Romano, J. A.) 66
Casteel, Stephen C. 338
Chase, E. Sherman 187
Chisholm, Peter S. (with Franzini, Joseph B.) 342
Chueh, Chun F. (with Grune, Werner N.) 43; 77; 102; 127; 171; 220; 254
Clark, J. W. (with Young, James C.; and Staffeldt, E. E.) 285
Coote, Richard H. 168
Culp, Gordon L. (with Walton, Graham) 415; 438

D

Davis, D. S. 33
Dinn, Walter E. 379
Downs, Thomas D. (with Gannon, John J.) 114; 157

E

Eagon, Herbert B. 181
Evans, Ralph (with Klassen, C. W.; and Helfand, Leo) 225
Evans, William T. 405

F

Faust, Raymond J. 175
Faust, S. L. (with Fitzgerald, G. P.) 296
Felsing, W. A. (with Gloyna, E. F.) 245
Fitzgerald, G. P. (with Faust, S. L.) 296
Flynn, John M. 83
Franzini, Joseph B. (with Chisholm, Peter S.) 342

G

Gannon, John J. (with Downs, Thomas D.) 114; 157
Gibson, George W. (with Grune, Werner N.; and Hughes, Ross B.) 34; 69; 97; 143
Gloyna, E. F. (with Bhagat, S. K.) 205
Gloyna, E. F. (with Felsing, W. A.) 245
Goff, F. G. 402
Goodman, Brian L. 27
Graham, E. R. 407
Greenberg, A. E. (with Lennette, E. Paul) 166
Grindrod, J. 230
Grune, Werner N. (with Chueh, Chun F.) 43; 77; 102; 127; 171; 200; 254
Grune, Werner N. (with Hughes, Ross B.; and Gibson, George W.) 34; 69; 97; 143

H

Halmos, E. E., Jr. 372
Hamilton, C. E. 422
Hardin, Eugene A. 351
Harmon, John 313
Hartmann, L. 262
Helfand, Leo (with Klassen, C. W.; and Evans, Ralph) 225
Hennigan, Robert D. 160; 200; 210; 279; 448
Hewes, Harry 178
Highland, J. T. 366
Hirsch, A. A. 147
Horn, James A. (With Varma, Man M.; and Reid, George W.) 191
Horton, Lee 111
Hufschmidt, M. M. 195
Hughes, Ross B. (with Grune, Werner N.; and Gibson, George W.) 34; 69; 97; 143
Hurwitz, E. 359

J

Jensen, Owen F., Jr. (with Madsen, Donald H.) 290
Joslyn, Dick 395

K

Kappe, Stanley E. 385; 433
Keech, Donald K. 37
Keefer, C. E. (with Becker, H. S. M.) 400
Klassen, C. W. (with Evans, Ralph; and Helfand, Leo 225
Kneese, Allen V. 85; 138

L

Langworthy, V. W. 56; 90; 100; 122; 162; 240; 300; 378; 418; 462
Lennette, E. Paul (with Greenberg, A. E.) 166
Ludwig, Russell G. 108
Lunetta, Anthony M. 151

M

Madsen, Donald H. (with Jensen, Owen F., Jr.) 290
Mason, Stanley A. (with Rasmussen, Alfred E.) 308
Middleton, A. B. 251
Milliman, J. W. 123; 389
Moehrl, K. E. 203
Murray, W. Bruce 318

O

Oeming, L. F. 269

P

Paulson, E. G. 216
Pierce, Donald M. (with Vogt, John E.; and Vander Velde, T. L.) 355
Purdy, R. W. 155

R

Ramey, Jesse C. 241
Rasmussen, Alfred E. (with Mason, Stanley A.) 308
Reid, George W. (with Varma, Man M.; and Horn, James A.) 191
Roach, P. T. 453
Robinson, J. H. 257
Roddy, Charles P. 382
Romano, J. A. (with Carpenter, J. D.) 66

Rowan, W. H. (with Bonney, C. H.; and Webb, M. R.) 71

S

Shane, R. M. (with Behn, V. C.) 272
Smith, L. Joseph 459
Spragg, Hal R. 163
Staffeldt, E. E. (with Young, James C.; and Clark, J. W.) 285
Staff Report 169; 177; 180; 185; 186; 202; 226; 228; 236; 237; 331; 367; 425; 436; 437; 442
Stalmann, V. (with Bischofsberger, W.) 411
Stauss, John 267
Stevenson, Robert E. 49
Stout, Robert C. 23

T

Taras, Michael J. 347
Thompson, John C. 212
Tomlinson, H. D. (with Atkins, Peter F. Jr.) 275; 281

V

Vander Velde, T. L. (with Donald M. Pierce; and Vogt, John E.) 355
Varma, Man M. 364
Varma, Man M. (with Horn, James A.; and Reid, George W.) 191
Varma, M. Man (with Wilcomb, J. Maxwell) 426
Vaughn, Richard D. 305
Voedisch, Fred W. 334
Vogt, John E. (with Pierce, Donald M.; and Vander Velde, T. L.) 355

W

Walker, Ben F. (with Zabban, Walter; and Watson, E. F.) 130
Walton, Graham (with Culp, Gordon L.) 415; 438
Watson, E. P. (with Zabban, Walter; and Walker, Ben F.) 130
Webb, M. R. (with Bonney, C. H.; and Rowan, W. H.) 71
Whippen, W. G. 301
Whitcomb, Charles F., Jr. 61; 119; 135
Wilcomb, J. Maxwell (with Varma, M. Man) 426
Wright, James F. 148

Y

Yao, K. M. 91
Young, James C. (with Staffeldt, E. and Clark, J. W.) 285

Z

Zabban, Walter (with Walker, Ben F.; and Watson, E. F.) 130